ABSTRACT OF THE DISCLOSURE

Connected components and contour following identifying contours within pixel-based image data. The image data is expressed as a grid of columns and rows. A scan order is established over the grid to define a parent-child

5 relationship between contiguous pixels in adjacent rows and to define a sibling relationship among non-contiguous pixels in the same row. A run data structure is established in computer-readable memory that defines a run member by its row position and by its starting and ending column positions. The run data structure further defining parent, child and sibling structures for storing

10 information about the parent-child relationships and sibling relationships of pixels associated with the run member. Image data is scanned according to the scan order to identify contiguous pixels of a predetermined state as identified run members. Parent-child and sibling relationships of the identified run members are determined. The run data structure is populated with the row

15 position and starting and ending column positions of the identified run member and with the parent-child and sibling relationships of the identified run member. The populated run data structure is used to traverse the parent-child and sibling relationships and thereby identify contours within the pixel-based image data.

18